

Quarterly Report – Public Page

Date of Report: **March 14, 2009**
Contract Number: **DTPH56-08-T-000012**
Prepared for: **U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration**
Project Title: **Improvements to the External Corrosion Direct Assessment (ECDA) Process (WP#360): Potential Measurements on Paved Areas**
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For quarterly period ending: **March 14, 2009**

The following major activities were completed during the subject reporting period:

- Analysis of data from a Corrpro CIS and DCVG project in Delaware comparing different potential measuring techniques for a pipeline under asphalt paving.
- CIS and DCVG surveys for a pipeline in Houston under different pavement types, using typical and modified procedures.

The Houston tests clearly indicate that:

- Contact resistance and paving resistivity heavily influence the validity and value of potential measurements on the paving surface. Measuring these site-specific in-situ parameters at a reasonable number of representative locations seems to be a good, first-order indication of whether potential measurements on the paving surface would be reliable for determining corrosion control effectiveness.
- Compacted gravel and weathered asphalt/rock seem to be good candidates for simply performing CIS on the paving (no “special” procedures), provided paving resistance/resistivity is sufficiently characterized.
- For the “typical” conditions evaluated (concrete, gravel and asphalt), the thickness of the paving does not seem to be a significant factor relative to the validity of the potential measurements made using a reference electrode placed on the paving surface.
- The variations in CIS potentials on concrete may lead to false indications on corrosion control effectiveness, even with low contact resistance and concrete resistivity. Further evaluation of the factors that influence potential measurements is in order.

The Delaware tests included DCVG coating quality procedures using reference electrode pairs atop sand-filled holes in the asphalt paving vs. using reference electrode pairs directly on the paving. While there were subtle differences in the data, the same basic conclusions regarding coating indication location and coating quality are drawn. Using established procedures with better definition of acceptable meter input resistance and maximum paving resistance/resistivity characteristics seems most promising for DCVG procedures.

Corrpro will continue to identify and evaluate field projects. Aside from the planned quarterly deliverables, other planned activities include periodic meetings with corporate team partners. Corrpro will participate in the first of two peer reviews and continue to participate in the PHMSA/Industry Cased Pipe Advisory committee.